

## EAST Search History

## EAST Search History (Prior Art)

| Ref # | Hits | Search Query   | DBs                                | Default Operator | Plurals | Time Stamp       |
|-------|------|--|------------------------------------|------------------|---------|------------------|
| S1    | 615  | (first adj phase matrix) with (Cu Au Ag Co Pd Pt Rh Re Cr Zn Ni Al copper silver gold cobalt palladium platinum rhodium rhenium chromium zinc nickel aluminum) and (dispersoid dispersion stabiliz\$3 precipitate second adj phase nano\$11 ) with (inter\$2metallic\$1 metalloid (cerium tantalum zirconium tin silicon titanium) near3 (nitride carbide) TiC SiC SnC ZrC TaC CeC W2C "W.sub.2 C" Ni\$2Al\$1 Al\$2Ni\$1 "Mn.sub.4 Al.sub.11" "Al.sub.11 Mn.sub.4" Mn4Al11 Al11Mn4 "TiAl.sub.3" "Al.sub.3 Ti" TiAl3 Al3Ti (nickel manganese titanium Ni Mn Ti) near3 aluminide aluminide ) and (dispersion dispersoid precipitate second adj phase) with (reinforc\$5 strength\$5 harden\$4) with (metal\$4 alloy) | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 14:59 |
| S2    | 52   | S1 and ((graded gradient grading profile) with (concentration composition stabiliz\$4 second adj phase nanophas\$3 dispersoid precipitate nano\$11) FGM FGL functional\$4 near3 graded )   | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:01 |
| S3    | 248  | S1 and (dispersoid precipitate second adj phase stabilizer) with (nano\$11 ultra \$2fine\$1 sub\$2micron\$2 nm micron ".mu.m" "ang" angstrom millimicron quantum adj dot)  | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:01 |
| S4    | 16   | S2 and S3  | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:02 |
| S5    | 114  | S1 and (pre\$1coat\$4 coat\$4 plat\$4 encapsulat\$4 surface near3 layer ) with ( dispersoid precipitate second adj phase nano\$11 ultra\$2fine\$1 particle) with (metal\$4 Ag silver Au gold )   | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:02 |
| S6    | 117  | S1 and (Ni\$2Al\$1 Al\$2Ni\$1 "Mn.sub.4 Al.sub.11" "Al.sub.11 Mn.sub.4" Mn4Al11 Al11Mn4 "TiAl.sub.3" "Al.sub.3 Ti" TiAl3 Al3Ti )   | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:03 |
| S7    | 146  | S3 and ( 252/500,512-514.ccls. 428/323,332,378,402,403,457,544,547,551,650,678,694.ccls. 75/228,236,244.ccls. 419/6,8,10,12-14,23,30,35,38,48,61,64.ccls. 148/400,405,420-440,668,674-675,678,679,688.ccls. 427/180,450.ccls. 438/478.ccls. 204/471.ccls. 205/74,76,96,109,148,169,704.ccls. 420/590,552,550,469,129.ccls.)  | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:50 |
| S8    | 17   | S7 and (graded gradient grading profile FGM FGL)   | US-PGPUB; USPAT                    | OR               | ON      | 2011/01/28 15:50 |
| S9    | 17   | (dispersion dispersoid precipitate second adj phase) with ( reinforc\$5 strength \$5 harden\$4) with (metal\$4 alloy) and (dispersoid dispersion stabiliz\$3 precipitate second adj phase nano\$11 ultra\$2fine\$1 sub\$2micron\$2 ) with (intermetallic metalloid (cerium tantalum zirconium tin silicon titanium) near3 (nitride carbide) TiC SiC SnC ZrC TaC CeC W2C "W.sub.2 C" Ni\$1Al\$1 Al\$1Ni\$1 "Mn.sub.4 Al.sub.11" "TiAl.sub.3" Mn4Al11 TiAl3 (nickel manganese titanium ) near3 aluminide aluminide ) and (dispersoid precipitate second adj phase stabilizer) with (nano\$11 ultra\$2fine\$1 sub\$2micron\$2 nm micron ".mu.m" "ang" angstrom millimicron quantum adj dot)                           | USOCR                              | OR               | ON      | 2011/01/28 15:52 |
| S10   | 40   | (dispersion dispersoid precipitate second adj phase) with ( reinforc\$5 strength \$5 harden\$4) with (metal\$4 alloy) and (nano\$11 ultra\$2fine\$1 sub\$2micron\$2 nm micron ".mu.m" "ang" angstrom millimicron quantum adj dot) and (dispersoid dispersion stabiliz\$3 precipitate second adj phase nano\$11 ultra \$2fine\$1 sub\$2micron\$2 ) with (intermetallic metalloid (cerium tantalum zirconium tin silicon titanium) near3 (nitride carbide) TiC SiC SnC ZrC TaC CeC W2C "W.sub.2 C" Ni\$1Al\$1 Al\$1Ni\$1 "Mn.sub.4 Al.sub.11" "TiAl.sub.3" Mn4Al11 TiAl3 (nickel manganese titanium ) near3 aluminide aluminide )  | EPO; JPO; DERWENT                  | OR               | ON      | 2011/01/28 15:53 |
| S11   | 386  | jin near sungho.in.  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2011/01/28 15:54 |
| S12   | 9    | S11 and (metal\$4 alloy Cu copper Al aluminum) near5 (first adj phase matrix) and (ultra\$2fine\$1 dispersoid second adj phase quantum adj dot nano\$11) and (graded gradient grading profile )  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2011/01/28 15:55 |
| S13   | 19   | ("5759230" "5958575" "6858521" "20040146734" "20040071951" "4540546" "20010008157" "5925198" "5728195").did.   | US-PGPUB; USPAT; DERWENT           | OR               | ON      | 2011/01/28 15:56 |

## EAST Search History (Interference)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
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|       |      |              |     |                  |         |            |

|     |    |  |             |    |    |                  |
|-----|----|--|-------------|----|----|------------------|
| S14 | 20 | (dispersion dispersoid precipitate second adj phase) with (reinforc\$5 strength\$5) with (metal\$4 alloy) and (graded gradient profile) with (composition dispersoid second adj phase precipitate) and (nano\$11 nm ".mu.m" ultra\$2fine\$1 sub\$2micron\$1) with (dispersoid second adj phase precipitate dispersion) and (metal\$4 alloy) near5 matrix | USPAT; UPAD | OR | ON | 2011/01/28 16:00 |
| S15 | 6  | (functionally adj graded FGM (gradient graded) with (composition\$4 concentration) with (surface thick thickness)) and (nanoparticle nanoscale) with (dispersion dispersed dispersoid) and (metal\$4 alloy) near5 matrix   | USPAT; UPAD | OR | ON | 2011/01/28 16:02 |

1/ 28/ 2011 4:24:40 PM

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